

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009228**Date Inspected:** 28-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Yumin and Li Jia**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Joe Alaniz was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

OBG Assembly Yard

This QA Inspector performed MT of approximately 15% of repair areas previously tested and accepted by Quality Control personnel. This QA Inspector generated an MT report for this date. The member(s) is/are identified as OBG 1W. The weld designations reviewed are as follows:

Repair areas at Panel Point 8.5~12.5 and 1AW & 1BW weld splice hold back welds on stiffeners

1. BP311A-001-21, 23, 28, 29
2. BP313A-001-22, 26, 29
3. BP309A-001-29, 32, 34
4. BP305A-001-15, 18, 22
5. BP303A-001-16, 17, 21
6. BP307A-001-17, 20
7. SP397A-001-20, 23
8. SP398A-001-16, 21
9. SP399A-001-21, 26

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- 10. SP405A-001-19, 21
- 11. SP404A-001-20, 24
- 12. SP403A-001-20, 26
- 13. SP385A-001-18, 20
- 14. SP386A-001-19, 22
- 15. SP387A-001-17, 22
- 16. SP393A-001-17, 22
- 17. SP392A-001-13, 16
- 18. SP391A-001-17, 23

2AE

SMAW plug welding of bottom plate stiffeners located between panel point 13 & 14.  
Welder is identified as Mr. Li Guimin (220066). ZPMC QC is identified as Xu Yumin.  
The welding variables recorded by QC appeared to comply with WPS-345-SMAW-1G (1F)-Repair- misdrilled holes and repair procedure CWR755.

1AAE & 1AE

SMAW repair welding of weld joint 001 located on OBE1.  
Welder is identified as Mr. Yun Chengxian (045138). ZPMC QC is identified as Xu Yumin.  
The welding variables recorded by QC appeared to comply with WPS-345-SMAW-1G (1F)-Repair and repair procedure WR7875. Y locations of repair areas are approximately 5380 and 5930mm.

1AAE & 1AE

FCAW welding of weld joint 007 located on OBW1A at counter weight side of segment.  
Welder is identified as Mr. Cao Caijun (220064). ZPMC QC is identified as Xu Yumin.  
The welding variables recorded by QC appeared to comply with WPS-345-FCAW-3G (3F)-Repair and repair procedure WR7252.

FCAW welding of weld joint 009 located on OBW1A at cross beam side of segment.  
Welder is identified as Mr. Cao Caijun (220064). ZPMC QC is identified as Xu Yumin.  
The welding variables recorded by QC appeared to comply with WPS-345-FCAW-3G (3F)-Repair and repair procedure WR7254.

NDT Observation

This QA Inspector observed ZPMC Ultra Sonic (UT) Technician performing UT on various locations in the trial assembly yard. Locations are as followed:

1. UT was performed on 1AAW and 1AW repaired areas by ZPMC with a 70° transducer. Measurements were pulled from cross beam edge of segment. Y locations and welds are as followed:

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OBW1-009- 24,400mm (accepted)  
OBW1-001- 23,390mm (rejected)  
OBW1-001- 22,650mm (accepted)  
OBW1-001- 21,370mm (accepted)  
OBW1-001- 22,020mm (accepted)  
OBW1-001- 22,190mm (accepted)  
OBW1-001- 20,350mm (accepted)  
OBW1-001- 20,890mm (rejected)

2. UT was performed on 1AAW and 1AW repaired areas on edge plate (counter weight) by ZPMC with a 45° and 70° transducer. Measurements were pulled from top of edge to deck plate edge of segment. Y locations of rejects are as followed:

OBW1-002- 660mm, 1,170mm and 1,260mm (rejects)

3. UT was performed on 1AW and 1BW repaired areas by ZPMC with a 70° transducer. Measurements were pulled from crossbeam edge of segment. Y locations and welds are as followed:

OBW1-007- 580mm (accepted)  
OBW1-006- 2,240mm (rejected)  
OBW1-006- 2,355mm (rejected)  
OBW1-006- 3,500mm (rejected)  
OBW1-005- 33,280mm (accepted)

Please be advised the above noted weld was UT inspected by ZPMC on work shift 9-26-09.

This QA Inspector observed ZPMC Magnetic Particle (MT) Technician performing MT on various locations in the trial assembly yard. Locations are as followed:

1. ZPMC MT technician performed MT on the excavations at OBW1-010 weld seam. Y locations are approximately 150mm, 600mm and 780mm from cross beam. ZPMC MT technician accepted noted excavation locations.

2. ABF MT technicians performed MT on the diaphragm to floor beam weld joint at segment 5CE panel point 36.

### Miscellaneous Work In Progress

QA Inspector observed ZPMC's personnel performing various job functions in the trial assembly yard. Locations and description of work are as followed:

1. Heat straightening of bike path cantilever member BK1 at panel point 29 per HSR1 (B)-7522.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

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Only general conversation was held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (134-8257-0045), who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Alaniz,Joe	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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